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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,106	01/31/2001	Tomokazu Kakumoto	15162/03080	5452

24367 7590 05/09/2006

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EXAMINER

YE, LIN

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/773,106

Applicant(s)

KAKUMOTO ET AL.

Examiner

Lin Ye

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-23 is/are pending in the application.
- 4a) Of the above claim(s) 3-9 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-16 is/are allowed.
- 6) ☒ Claim(s) 17-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 10-16 allowed.

Please see the reason for allowance from the last examiner's Office Action mailed on 1/13/05.

Response to Arguments

2. The applicants state that withdrawn claim 3 has been amended so that it depends from allowable claim 10. It is respectfully submitted, therefore, that claim 3, as well as claims 4-9 which depend therefrom, are now allowable (See applicants' REMARKS page 8, lines 1-4).

In response, claims 3-9 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species corresponding to **Figure 7**, there being no allowable generic or linking claim. Election was made **without** traverse in the applicants' reply filed on July 19, 2004.

For claim 3, the elected species Figure 8 does not read on the limitation "...the transistor having the first and control electrodes thereof connected to a second electrode of the photosensitive element..." as recited in claim 3. Therefore, the claims 3-9 withdrawn from further consideration.

3. Applicant's arguments with respect to new claims 17-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCaffrey et al. U.S. 6,101,294 in view of Collins et al. U.S. 6,507,519.

Referring to claim 17, the McCaffrey reference discloses in Figures 1B, 1C, 2 and 3, an image-sensing device comprising: an area sensor (imager 201, see Col. 5, lines 1-2) part including a plurality of pixels arranged in a matrix, each pixel comprising a photosensitive element that generates an electric signal proportional to an amount of incident light and a transistor (e.g., it well known in the art the CCD or CMOS image sensor array comprising a plurality transistors) that outputs an analog signal that is proportional to the amount of incident light as shown in Figure 1 (See Col. 2, lines 51-65); and a level adjuster (charge capacity controller 202, see col. 5, lines 3-18 and lines 42-54) that adjusts a level of the analog signal output from the area sensor part so as to make the signal output higher as a whole when the incident light is intense and so as to make the signal output lower as a whole when the incident light is dim (e.g., as shown in Figures 1B and 1C, where I3 is the most intense light level, I2 and I1 is the dim light level. The level adjuster 202 has control voltage

functions for adjusting the signal output higher as whole when light level is I3 and the signal output lower as whole when light level is I2. This can make sure light levels I3 and I2 are not saturate before the end of the integration period, and possible to display any image details above these light levels. See Col. 3, lines 8-14 and Col. 7, lines 47-63). However, the McCaffrey reference does not explicitly state the transistor that outputs an analog signal that is natural-logarithmically proportional to the amount of incident light.

The Collins reference teaches in Figures 2-3, an image-sensing device (See Col. 5, lines 41) comprising: a plurality of pixels (each pixels show in Figure 3) that generate an electric signal proportional to an amount of incident light and then output the electric signal (V_x) as an analog signal that is natural-logarithmically proportional to the amount of incident light (See Col. 5, lines 65-66). The Collins reference is evidenced that one of ordinary skill in the art at the time of the invention to see more advantages when the imaging-sensing device is a logarithmic type imaging sensor so that has very wide dynamic range with makes the imaging-sensing device suitable for imaging external scenes (See Col. 6, lines 15-22). For that reason, it would have been obvious one having ordinary skill in the art at the time of the invention was made to modify the imaging-sensing device of McCaffrey by providing a logarithmic type imaging sensor for generating the output imaging electric signal as an analog signal that is natural-logarithmically proportional to the amount of incident light as taught by Collins.

Referring to claim 18, the McCaffrey reference discloses wherein the level adjuster adjusts the level of the analog signal output (via bus 212) from the area sensor part by using output of the pixels as shown in Figure 3.

Referring to claim 19, the McCaffrey reference discloses wherein the level adjusts the level of the analog signal output (via bus 212) from the area sensor part by using an integral of the output of the pixels (the global brightness distribution of pixels of frame 0) as shown in Figure 3.

Referring to claim 20, the McCaffrey reference discloses wherein the level adjuster adjusts the level of the analog signal output from the area sensor part according a brightness of a subject measured by means for measuring brightness (measured by brightness histogram 300, see Col. 5, lines 55-67).

Referring to claim 21, the McCaffrey reference discloses wherein the level adjuster holds an adjustment signal (first voltage V1 and second voltage V2 adjustment) relatively constant while the area sensor is outputting an output signal corresponding to one frame (see Col. 5 lines 55-67 and Col. 6, lines 1-6).

Referring to claim 22, the McCaffrey reference discloses wherein the level adjuster adjusts the level of the analog signal output from the area sensor part for every frame (every frame of video display on the monitor 220, see Col. 7, lines 47-67).

Referring to claim 23, the McCaffrey reference discloses wherein the level adjuster adjusts the level of the analog signal output from the area sensor part once for a plurality of frames (running average of the last five frames may be used, see Col. 7, lines 64-67).

Conclusion

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6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lin Ye whose telephone number is (571) 272-7372. The examiner can normally be reached on Mon-Fri 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Lin Ye', with a long horizontal stroke extending to the right.

Lin Ye
Primary Examiner
Art Unit 2622

May 3, 2006